REMARKS

Claims 1 and 3-9 are presently pending in the application. Claim 2 has been cancelled. The subject matter of claim 2 has been incorporated into claim 1. Claim 3 has been amended into independent form, and now recites the subject matter of original claims 1 and 2. Claims 1 and 3 have been further amended to more particularly point out and claim the invention. Support for these amendments is found at least in the specification at page 3, lines 22-24 and in Fig. 5. New claims 7-9 have been added. Claims 7-9 recite the subject matter of original claims 4-6. No new matter has been added by the Amendment.

Claim Rejections – 35 U.S.C. § 103 – claims 1-5

The Examiner has rejected claims 1-5 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,503,041 (Van Gorp) in view of U.S. Patent No. 6,843,026 (Hoehn). The Examiner asserts that Van Gorp discloses a roof as claimed in claims 1, 2, and 3, except for explicitly detailing the use of sheet member coverings. The Examiner further asserts that Hoehn teaches that it is known in the art to provide a roof with sheet roof coverings. The Examiner admits that Van Gorp fails to disclose the specific materials recited in claims 4 and 5, but asserts that selection of the recited materials would have been an obvious matter of design choice. Applicants respectfully traverse these rejections.

Van Gorp discloses a storage apparatus having a low pitched roof 12. The roof 12 is supported peripherally by a container wall 28 and centrally by a larger diameter central column 13. Van Gorp is silent regarding the manner in which the roof 12 is connected to the container wall 28. Van Gorp is also silent regarding structural details regarding roof 12 (for example, whether the roof 12 includes truss structures). Van Gorp further discloses a rotary scraper 16 comprising a series of radial arms 17 which extend from an inner annular hub 18 to an outer annular rim 19. Each radial arm 17 is a truss structure. Each radial arm 17 is supported at an outer radial extent by an angle section member 21 supported vertically by rollers 24 and horizontally by rollers 26.

Hoehn discloses a roof structure in the form of a cone-shaped polygon. The roof comprises trusses which extend radially from a central column. Outer peripheral edge portions

of the trusses are disclosed to be fixedly supported by posts 30. In particular, the trusses are fixedly connected to spacer members 36. Each spacer member 36 is disclosed to be welded to a truss upper beam 34a, a truss lower beam 34b, and a reinforcing member 38 (see column 3, line 39 though column 4, line 16, and Fig. 7). The spacer member 36 is in turn fixedly connected to the post 30, preferably using conventional fasteners such as nuts and bolts 40.

The present invention describes a roof adapted to cover a manure storage tank. The roof has a frusto-conical configuration and comprises a central, tubular hub (14) and a plurality of trusses extending radially outwardly therefrom. The central, tubular hub (14) of the present invention comprises rings (16, 18) which allow ventilation of the gases emanating from the storage tank.

The roof comprises plate members (50) having low frictional surfaces located about the lower edge of the roof. The roof is secured to the storage tank by means of brackets (52). The brackets (52) do not prevent the movement back and forth of post members (40). The plate members having low frictional surfaces minimize the lateral forces which will be transmitted from the roof to the manure storage tank. The prior art of record discloses a roof attached fixedly to a storage tank. As such, any pressure applied to the roof creates lateral forces on the storage tank which increases the risk of cracking of the storage tank, resulting in spillage and the like. The roof of the present invention by its construction allows the transmission of vertical forces to the storage tank but minimizes transmission of horizontal forces.

A reinforcement belt (54) is secured about the outer surface of the post members (40) and prevents the post members (40) from being displaced off the storage tank (12) by the forces being exerted on the roof (10), such as the weight of snow during the winter, which could result in the collapse of the roof (10).

Claim 1 is directed to a roof for a generally cylindrical structure, and, as amended, recites *inter alia*:

> ...
> plate members having low frictional surfaces located intermediate the lower edge of the roof and an upper surface of the cylindrical wall structure covered by the roof and means to secure said roof to

> the upper surface of said cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane.

Similarly, claim 3 as amended recites, *inter alia*:

> ...
> plate members having low frictional surfaces located intermediate the lower edge of the roof and an upper surface of the cylindrical wall structure covered by the roof; a generally cylindrical reinforcement member secured adjacent the lower edge of said roof and means to secure said roof to the upper surface of said cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane.

Claims 1 and 3 have been amended to recite "means to secure said roof to the upper surface of said cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane". Support for these amendments is found in the specification at least at page 3, lines 22-24, which states that "[t]he brackets 52 do not prevent the movement back and forth of the post members 40" and in Fig. 5.

Assuming *arguendo* that Hoehn is properly combinable with Van Gorp, the proposed combination fails to disclose at least the features recited in claim 1 and 3, as amended, of (1) a plate member having low frictional surfaces and (2) means to secure a roof to a cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane.

The Examiner has relied upon Van Gorp to disclose a roof comprising a plurality of trusses. As noted above, Van Gorp is silent regarding the structural configuration of the roof 12. Van Gorp does disclose the rotary scraper 16 comprising a series of radial arms 17, each configured as a truss structure. Van Gorp does not disclose a roof comprising a plurality of trusses.

Van Gorp further fails to disclose the feature a roof plate member having low frictional surfaces. The Examiner has pointed to the angle section member 21 and to the specification of Van Gorp at column 3, lines 1-6 as inherently disclosing roof plate members having low frictional surfaces, as recited in claims 1 and 3, as amended. The passage cited by the Examiner deals with operation of the counterweight and cable and sheave system used by Van Gorp to move the leveling apparatus 16 vertically. The passage cited by the Examiner states that a

system of counterweights "requires only limited force to promote the up or down movement of the leveling/reclaiming apparatus". Contrary to the Examiner's assertion, the specification clearly does not inherently disclose a roof plate member formed from a material providing a low frictional surface, as Van Gorp fails to disclose a roof plate member at all. The cited passage refers to operation of the counterweight system, and provides no teaching, disclosure, or suggestion regarding frictional characteristics of a roof plate member.

Although not relied upon by the Examiner to disclose the feature of roof plate member having low frictional surfaces, Hoehn also fails to disclose this feature. Hoehn is silent regarding frictional characteristics of elements forming the roof structure 22.

Furthermore, Van Gorp fails to disclose means to secure a roof to a cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane. As stated above, Van Gorp is silent regarding the structure of the roof 12, and in particular contains no disclosure regarding means to secure a roof to a cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane.

Similarly, Hoehn fails to disclose the feature of means to secure a roof to a cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane. As discussed above, the roof 20 of Hoehn is disclosed to be fixedly attached to the supporting posts 30.

As the storage apparatus of Van Gorp modified as proposed by the Examiner by Hoehn fails to disclose, teach, or suggest each and every element of claims 1 or 3, as amended, it is respectfully submitted that a *prima facie* case for obviousness has not been established with respect to claim 1, and claims 4-6 depending therefrom, or with respect to claim 3 (as well as new claims 7-9 depending therefrom, as discussed below). Accordingly, it is requested that the rejection of claims 1 and 3-5 under 35 U.S.C. § 103(a) be withdrawn. Rejection of claim 2 is moot in view of cancellation of this claim.

Claim Rejections – 35 U.S.C. § 103 – claim 6

The Examiner has rejected claim 6 under 35 U.S.C. § 103(a) as being unpatentable over Van Gorp in view of Hoehn in further view of U.S. Patent No. 5,522,186 (Jarman). The Examiner states that the device of Van Gorp as modified by Hoehn discloses the basic claimed structure, except for explicitly detailing the use of a door. The Examiner further states that Jarman teaches that it is known in the art to provide the wall of a structure with a door.

Jarman discloses a structure supported by a tree. Jarman does not disclose the feature of a roof plate member having low frictional surfaces. Jarman also fails to disclose the feature of means to secure a roof to a cylindrical wall structure, wherein said means allow movement of the roof in a generally horizontal plane.

Assuming *arguendo* that Van Gorp, Hoehn, and Jarman are combinable, the proposed combination fails to teach, disclose, or suggest all of the features of claim 1. It is therefore respectfully submitted that a *prima facie* case for obviousness has not been established with respect to claim 1 or claim 6 depending from claim 1. Accordingly, it is requested that the rejection of claim 6 under 35 U.S.C. § 103(a) be withdrawn.

New Claims 7-9

Applicants have added new dependent claims 7-9. New claims 7-9 recite the subject matter of original claims 4-6, and thus support for new claims 7-9 is found at least in original claims 4-6. For the same reasons discussed above relative to claims 4-6, Applicants submit that new claims 7-9 are allowable over the prior art of record. Accordingly, Applicants respectfully request allowance of new claims 7-9.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully submit that the Examiner's rejections have been overcome, and that the application, including claims 1 and 3-9, is in condition for allowance. Reconsideration and withdrawal of the Examiner's rejections and objections, and an early notice of allowance are respectfully requested.

Also, please note the correct spelling of the first named inventor's surname with accents and please use them in correspondence. The application has already been published without accents and is not identified on the U.S.P.T.O. website when searched under the correct spelling of the name. If you are unable to duplicate the spelling, please advise me by email and I will forward you a sample you can copy electronically.

Respectfully submitted,

ALAIN CÔTÉ *et al.*

18 Oct 2005 By: _____
(Date)

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